

IN THE CLAIMS

Please cancel Claims 1-24 without prejudice or disclaimer.

Please add the following new claims.

Listing of Claims:

Claims 1-24 (canceled)

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Claim 25 (new) A method operating a distributed processing system having a network coupling a multiplicity of Host distributed devices for processing workloads for the distributed processing system, a plurality of Client systems requesting processing of the workloads, a Server system for selectively distributing the workloads from the plurality of Client systems for processing by the distributed processing system, and a capability database coupled to the Server system comprising the steps of:

a) storing scheduling data corresponding to each of the plurality of Host distributed systems and to each of the plurality of Client systems users in the capability database;

b) generating a capability vector for each of the plurality of Host distributed devices with capability values defining an ability each of the plurality of Host distributed devices has for processing workloads;

c) generating a Client priority for each of the plurality of Client systems defining an order a particular Client system within the plurality of Client systems is granted access for sending a selected workload to the distributed processing system for processing, wherein the Client priority is stored as scheduling data in the capability database;

d) assigning a Client workload priority to each workload within each of the plurality of Client systems defining an order in which the selected workload is sent to the distributed processing system when the particular Client system is granted access to the distributed processing system in response to its corresponding Client priority,

wherein the Client workload priorities are stored as scheduling data in the capability database;

e) distributing the selected workload from a particular Client system by the Server system to the first Host distributed device within the plurality of distributed devices in response to the scheduling data stored in the capability database; and

f) modifying the scheduling data in the capability database in response to receiving status inputs from the plurality of Host distributed devices and the plurality of Client systems.

AI Claim 26 (new) The method of claim 25, wherein a status input is sent to the Server system from a Host distributed to modify the capability database in response to a change in availability of resources in the Host distributed device resulting from processing a workload.

Claim 27 (new) The method of claim 25, wherein a status input is sent to the Server system from a Client system when the Client system changes a Client workload priority for any workload the Client system may submit to the Server system to distribute for processing on the distributed processing system.

Claim 28 (new) The method of claim 25, wherein the scheduling data comprises the Client priority of the particular Client system, the Client workload priority of the selected workload within the particular Client system, and the capability values in the capability vector of the selected Host distributed device.

Claim 29 (new) The method of claim 25 further comprising the steps of:

g) grouping selected Host distributed devices from the plurality of Host distributed devices to form one or more Host groups, wherein a particular Host group is formed in response to the fixed capability values in the capability vectors of the selected Host distributed devices; and

h) assigning a group value as a capability value to the capability vector of each Host distributed device when assigned to a Host group.

Claim 30 (new) The method of claim 28, wherein the group values include shared resources available as long as the particular Host distributed device is assigned to a particular Host group.

Claim 31 (new) The method of claim 30, wherein the Server system distributes a first workload from a selected Client system in response to the scheduling data and a request from the selected Client system to use the distributed processing system to process workload.

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Claim 32 (new) The method of claim 25, wherein the capability values for a Host distributed system comprises, fixed values defining operating performance of system components, data present at the Host distributed system for processing particular workloads, application software present at the Host distributed system for processing particular workloads, and group values limiting workload processing by the Host distributed to specific Client systems.

Claim 33 (new) The method of claim 28, wherein selected of the plurality of Host distributed devices are grouped in a particular Host group in response to capability values in their corresponding capability vector and an incentive value.

Claim 34 (new) The method of claim 33, wherein the incentive value defines a benefit the selected of the plurality of Host distributes devices realize by being assigned to a particular Host group.

Claim 35 (new) The method of claim 34, wherein the Server system generates incentive values available to the plurality of Host distributed devices for accepting an assignment to a particular Host group.

Claim 36 (new) The method of claim 28, wherein the group capability values include an affiliation indication.

Claim 37 (new) The method of claim 36, wherein the affiliation indication comprises an association with a particular educational institution or a particular scientific research project.

Claim 38 (new) The method of claim 36, wherein the group capability values include a plurality of project types.

Claim 39 (new) The method of claim 38 further comprising the step of allocating percentages of the processing capability of a Host distributed device grouped within a particular Host group between selected of the plurality of project types.

Claim 40 (new) The method of claim 25, wherein a value of the Client priority of a particular Client system is set in response to a payment paid by the Client system for access to the distributed processing system.

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Claim 41 (new) The method of claim 28, wherein a value of the Client priority of a particular Client system is set in response to the Client system's association with a formed Host group.

Claim 42 (new) A computer program product operating within a Server system coupled to a network and managing a distributed processing system, the network configured to enable the Server system to selectively couple a multiplicity of Host distributed devices to perform workloads for the distributed processing system, wherein the server system is coupled to a capability database, the program product comprising a program of instructions for performing the program steps of:

a) storing scheduling data corresponding to each of the plurality of Host distributed systems and to each of the plurality of Client systems users in the capability database;

b) generating a capability vector for each of the plurality of Host distributed devices with capability values defining an ability each of the plurality of Host distributed devices has for processing workloads;

c) generating a Client priority for each of the plurality of Client systems defining an order a particular Client system within the plurality of Client systems is granted access for sending a selected workload to the distributed processing system for processing;

d) assigning a Client workload priority to each workload within each of the plurality of Client systems defining an order in which the selected workload is sent to

the distributed processing system when the particular Client system is granted access to the distributed processing system in response to its corresponding Client priority;

e) distributing the selected workload from a particular Client system by the Server system to the first Host distributed device within the plurality of distributed devices in response to the scheduling data stored in the capability database; and

f) modifying the scheduling data in the capability database in response to receiving status inputs from the plurality of Host distributed devices and the plurality of Client systems.

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Claim 43 (new) The computer program product of claim 42, wherein a status input is sent to the Server system from a Host distributed to modify the capability database in response to a change in availability of resources in the Host distributed device resulting from processing a workload.

Claim 44 (new) The computer program product of claim 42, wherein a status input is sent to the Server system from a Client system when the Client system changes a Client workload priority for any workload the Client system may submit to the Server system to distribute for processing on the distributed processing system.

Claim 45 (new) The computer program product of claim 42, wherein the scheduling data comprises the Client priority of the particular Client system, the Client workload priority of the selected workload within the particular Client system, and the capability values in the capability vector of the selected Host distributed device.

Claim 46 (new) The computer program product of claim 42 further comprising the steps of:

g) grouping selected Host distributed devices from the plurality of Host distributed devices to form one or more Host groups, wherein a particular Host group is formed in response to the fixed capability values in the capability vectors of the selected Host distributed devices; and

h) assigning a group value as a capability value to the capability vector of each Host distributed device when assigned to a Host group.

Claim 47 (new) The computer program product of claim 45, wherein the group values include shared resources available as long as the particular Host distributed device is assigned to a particular Host group.

Claim 48 (new) The computer program product of claim 47, wherein the Server system distributes a first workload from a selected Client system in response to the scheduling data and a request from the selected Client system to use the distributed processing system to process workload.

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Claim 49 (new) The computer program product of claim 42, wherein the capability values for a Host distributed system comprises, fixed values defining operating performance of system components, data present at the Host distributed system for processing particular workloads, application software present at the Host distributed system for processing particular workloads, and group values limiting workload processing by the Host distributed to specific Client systems.

Claim 50 (new) The computer program product of claim 28, wherein selected of the plurality of Host distributed devices are grouped in a particular Host group in response to capability values in their corresponding capability vector and an incentive value.

Claim 51 (new) The computer program product of claim 50, wherein the incentive value defines a benefit the selected of the plurality of Host distributes devices realize by being assigned to a particular Host group.

Claim 52 (new) The computer program product of claim 51, wherein the Server system generates incentive values available to the plurality of Host distributed devices for accepting an assignment to a particular Host group.

Claim 53 (new) A software agent operating within one of a multiplicity of Host distributed devices coupled to a network, the network configured to enable a Server system to selectively couple the multiplicity of Host distributed devices to perform workloads for the distributed processing system, the software agent comprising a program of instructions for performing the program steps of:

monitoring resource utilization within a Host distributed device selected from the multiplicity of Host distributed devices;

AI generating a status for the Host distributed device comprising types and capacities of resources available in the Host distributed system and utilizations of resources within the Host distributed device;

modifying the status for the Host distributed system whenever resources are added or deleted or when the availability of the resources change, thereby generating a status change; and

sending the status of the Host distributed device to the Server system in response to a status request or automatically in response to the status change.
